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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,954	09/12/2003	Joseph Slayton	81044313	8376

28866 7590 02/14/2006

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EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,954

Applicant(s)

SLAYTON ET AL

Examiner

Christine M. Behncke

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 19-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 16 and 24-31 is/are rejected.
- 7) ☒ Claim(s) 12, 15, 17, 18 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Response to Election/ Restriction filed 26 October 2005, in which claims 1-18 and 24-31 were elected for examination.
2. Applicant's election without traverse of claims 1-18 and 24-31 in the reply filed on 26 October 2005 is acknowledged.

Claim Objections

3. **Claim 26** is objected to because of the following informalities: Claim 26 recites "The method of claim 24", however, claim 24 is claims a system. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 11, 16 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinhauser et al., US Patent Application Publication No. 2002/0058570.

5. **(Claims 1 and 24)** Steinhauser et al. discloses a method for controlling an engine coupled to a transmission having an input speed (transmission input speed of rotation n_i), an output speed (output speed of rotation n_{ab}), a current gear and a next

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gear ([0003]-[0004]), the engine having an engine speed (RPM of motor n_{mot}), the method comprising the steps of: determining a synchronous input speed based on the current gear and a parameter indicative of the transmission output speed ([0022]); producing a first indication that a gear ratio change from the current gear to the next gear has been initiated ([0004]); and in response to the first indication, adjusting an engine operating parameter to control the engine speed such that the input speed is maintained at or below the synchronous input speed ([0004], [0015], and [0018]).

6. **(Claims 3 and 25)** Steinhauser et al. further discloses determining a second synchronous input speed based on the next gear and a parameter indicative of the transmission output speed ([0023]); and adjusting an engine operating parameter to increase progressively the engine speed such that the input speed is maintained at or below the second synchronous input speed during the gear ratio change ([0017], [0020], [0023], [0031]).

7. **(Claims 4 and 26)** Steinhauser et al. further discloses wherein the transmission has a torque converter turbine speed coupled to the engine speed, and the gear ratio is produced by disengaging an offgoing friction element ([0003]-[0004]), comprising: determining a second synchronous input speed based on the next gear and a parameter indicative of the transmission output speed ($n_{t-synneu}$ [0020]-[0023] and [0026]); producing a second indication that the turbine speed is greater than the synchronous input speed ([0017]); and in response to the second indication, adjusting an engine operating parameter to increase the engine speed such that the input speed

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is maintained at or below the second synchronous input speed ([0020]-[0023] and Figure 1).

8. **(Claims 5 and 27)** Steinhauser et al. further discloses wherein the engine operating parameter is an engine output torque ([0031], [0044]).

9. **(Claim 11)** Steinhauser et al. discloses a method for controlling a powertrain having an offgoing friction element to be disengaged during a gear ratio change, the method comprising: initiating a gear ratio change from a current gear ratio ($n_{tsynalt}$) to a next gear ratio ($n_{t-synneu}$, [0003]-[0004]); determining a value representing a desired engine speed until disengagement of the offgoing friction element is detected (synchronous speed of rotation of the old gear ratio, T_{LZ_T} , Figure 1); determining a rate of increase of desired engine speed during a period following detection of the disengagement of the offgoing friction element ([0026], [0031] and Figure 1); increasing the desired engine speed value at the start of the period by said determined rate of increase of desired engine speed during the period (Figure 1); and using the desired engine speed value to control engine speed during the gear ratio change ([0017], [0020], [0023], [0031]).

10. **(Claim 16)** Steinhauser et al. further discloses wherein the step of increasing the desired engine speed comprises repetitively increasing at frequent intervals the desired engine speed value a last interval by the time rate of change of desired engine speed (Figure 2).

Claim Rejections - 35 USC § 103

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11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Steinhauser et al.

Steinhauser et al. discloses a method of controlling the operation of down shifting in an automatic transmission. It is well known in the automotive art and inherent that in a down shifting operation from a first gear to a next gear (e.g. second gear to first gear), the next gear ratio is greater than the first gear ratio.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-10 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinhauser et al. in view of Cullen et al., US Patent No 6,945,910.

Steinhauser et al. discloses the method of controlling an engine coupled to a transmission, wherein the engine speed is controlled to a speed at or below a determined synchronous input speed of the transmission. Steinhauser et al. does not explicitly disclose wherein the engine parameter for controlling the engine speed is a throttle position, airflow, ignition timing, air-fuel ratio, or fuel flow. However, Cullen et al. teaches the controlling of an engine coupled to a transmission wherein the engine speed is controlled using engine operating parameters such as air/fuel, ignition timing, throttle angle and any other available torque actuator (Column 6, lines 48-50). It would have been obvious to one of ordinary skill in the automotive art to substitute or use in combination the engine parameters taught by Cullen et al. with the engine control system and disclosed engine parameter of engine output torque because all are well known and used parameters to control the output of the engine speed.

Allowable Subject Matter

14. **Claims 12-15, 17 and 18** are objected to as being dependent upon a rejected base claim and are at present considered to overcome the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12-11-2005


SUPERVISOR
SUPERVISORY PATENT EXAMINER
GROUP 3600